

## ABSTRACT

The present invention provides compositions for inhibiting proteases, methods for synthesizing the compositions, and methods of using the disclosed protease inhibitors. Aspects of the invention include aza-peptide epoxide compositions that

5 inhibit proteases, for example cysteine proteases, either *in vivo* or *in vitro*. The disclosed compounds, pharmaceutically acceptable salts, pharmaceutically acceptable derivatives, prodrugs, or combinations thereof can be used to treat disease or pathological conditions related to the activity of proteases associated with a specific disease or condition. Such treatable conditions include viral infections, stroke,

10 neurodegenerative disease, and inflammatory disease, among others.